eAppendix: Supplemental Methods

SEER's Coding Instruction

In the SEER database, before 2004 the tumor size variable recorded was based on the best information available from either clinical or pathologic examinations. Registrars were instructed to code tumor size in the following order: 1, from pathology report when patient receives no local or systemic therapy prior to surgery; 2, if patient receives neoadjuvant therapy, code largest tumor size prior to the therapy. Regarding estrogen receptor (ER) and progesterone receptor (PR) statuses, the SEER's coding instruction suggests that, 1, in cases where ER and PR are reported on more than one tumor specimen, record the highest value; 2, if neoadjuvant therapy is given, record the assay from tumor specimens prior to neoadjuvant therapy; 3, if there are no ER or PR results from pre-treatment specimens, report the findings from post-treatment specimens. Of note, SEER does not report chemotherapy, and whether a patient underwent neoadjuvant chemotherapy or not is unknown.

Patient Selection of the FDSCC Set

To validate the findings from the SEER Set and to clarify relevant issues, we used the data from FDSCC and selected 335 patients fulfilling the following inclusion criteria: female, pathologically confirmed invasive ductal carcinoma, T3 tumor between 40 and 80 mm before NCT, no T4 presentation, no evidence of distant metastasis, breast cancer as the primary and only tumor, having received surgery after NCT, and available pathological LN status. The patients treated with other pre-operative treatments, including radiotherapy, HER2-targeted therapy, or endocrine therapy, were excluded. The preoperative examination, surgical treatment, assessment of hormone receptor and HER2 statuses, NCT regimens, and adjuvant treatment strategy had been described in detail elsewhere.[1,2] Response Evaluation Criteria in Solid Tumors guidelines were used to evaluate the clinical response. Pathologic response was assessed postoperatively using the Miller-Payne scoring system,[3,4] with grade 5 considered to be pathological complete remission (pCR) and grade 1-4 to be non-pCR.

References

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